

REMARKS

Claims 1-5, 29-33, 57, 60, 63-65 and 72-79 are currently pending in this application. Claims 6-28, 34-56, 58, 59, 61, 62, and 66-71 have been withdrawn from consideration. Claims 1, 4, 5, 29, 32, 33, 63, 64, 72, 73, 75, and 76 have been amended without prejudice to more distinctly claim subject matter which the Applicant regards as the invention. No new matter has been introduced into the application by these amendments.

Claims 1-5, 29-33, 57, 60, 63-65 and 72-79 have been rejected under 35 U.S.C. §103(a) as unpatentable over U.S. Patent No. 4,669,817 (Mori) in view of U.S. Patent No. 6,227,669 (Tiao). Applicants respectfully traverse this rejection for the reasons set forth below.

Independent claims 1, 29, 57, 63-65, and 72-77 of the present application all recite a lighting control section or means configured to control a light-emitting timing of the plurality of illuminants. The Office Action states, in pertinent part, that Mori discloses:

a lighting control section / lighting control means ("illuminants" 100 and 100' are controlled by the rotation of the "optical member/ means/ plurality of optical members/ means" 146 and 148) configured to control a light-emitting timing of the plurality of illuminants.

As a threshold matter, elements 100 and 100' of Mori, as illustrated in Fig. 20, are "light conducting cables" or "fiber optic cables" which do not have "light emitting surfaces radiating diffused light" in a similar manner as the "illuminants"

recited in the presently claimed invention. Rather the cables in Mori are used to propagate light from a separate source remote from optical members 146, 148 (see col. 3, lines 42-47).

Mori does not suggest or disclose that the light-emitting timing of the lights conducted by the "light conducting cables" are controlled by a lighting control section or means, as required by independent claims 1, 29, 57, 63-65, and 72-77 of the present invention. The Examiner asserts that the light conducting cables 100 and 100' are controlled by the rotation of the "optical member/ means/ plurality of optical members/ means 146 and 148." While the light conducting rods 146 and 148 of Mori control the direction of light emission (see col. 6, lines 54-64 and Fig. 20), they do not control the timing of light emission as required by the presently claimed invention.

In addition, independent claims 1, 29, 57, 63-65, and 72-77 of the present invention recite that the optical member or means and lighting control section or means are distinct elements of the apparatus; whereas, the Examiner has relied only on the light conducting rods in Mori (*i.e.* 146 and 148) to perform both the function of the optical member and the lighting control section (see pgs. 2 and 3 of the June 3, 2005 Office Action). Furthermore, Mori does not suggest or disclose "a lighting control section configured to control a periodic successive light-emitting timing of the plurality of illuminants" as disclosed by independent claims 1, 29, 63, 64, 72, 73, 75, and 76 of the present invention.

Independent claims 57, 65, 74, and 77 of the present application further recite that the optical member or means are adapted to guide the light from the illuminants to the objective illumination region, and independent claims 1, 29, 63, 64, 72, 73, 75, and 76 specifically recite that the optical member or means are adapted to guide the light from the illuminants in a common direction in order to illuminate the specific objective illumination region. Mori is distinguishable because, as shown in Figure 20 of Mori, the light reflected by reflecting ends 146a and 148a of the light conducting rods 146 and 148, is radially reflected over a 360° range (per revolution of member 150), for example, along the entire inner periphery of the chamber 202 as shown in Figure 22, and not in a particular direction toward the objective illumination region as required by the presently claimed invention.

Independent claims 1, 29, 57, 63-65, and 72-77 all recite that the optical members or means so as to be rotatable around a center of the circumference of the array of illuminants. Based on the positioning of the illuminants in Mori, the optical members are not rotatable about the center of a circumference of the array of illuminants. Mori rotates elements 146, 148, and 150 about an axis which is not the center of the circumference of elements 100, 100' or an axis parallel thereto, but, to the contrary, rotates elements 146, 148 about a central axis which is perpendicular to the circumference of elements 100, 100' (see Fig. 20).

Based on the foregoing, because Mori does not suggest or disclose a lighting control section and does not suggest or disclose that diffused light is guided in a

particular direction toward the objective illumination region, Mori cannot suggest or disclose that the moveable means and the lighting control means operate together such that a quantity of light per unit time of the diffused light guided to the objective illumination region is within a predetermined range, as taught by the present invention.

Finally, the combination of Mori and Tiao does not suggest or disclose “an illuminant substrate in which the illuminants are disposed so as to be set in an array on a circumference,” as recited by independent claims 1, 29, 57, 63-65, and 72-77 of the present invention. The Examiner admits that Mori does not disclose “an illuminant substrate in which the illuminants are disposed so as to be set in an array on a circumference.” The Examiner relies on the teachings of Tiao to disclose the circumferential array of illuminants, with reference to elements 202 of Fig. 2A and 2C, 712 of Fig. 7A, and 812 of Fig. 8A. However, Tiao is distinguishable because it only discloses that the light sources are arranged in a planar array (Fig. 2A, 7A, 8A) or curved array (Fig. 2C). Tiao discloses that the curved array “is like a concave lens.” Col. 4, lines 1-5. However, there is no disclosure in Tiao of illuminants disposed in an array about a circumference of the illuminant substrate, and especially for use with rotatable optical members. The optical members 202 and 204 in Tiao, in addition to the light sources 204, are stationary. Therefore, there is no disclosure in Tiao or Mori, either alone or in combination, that optical members or means are rotatable around a center of the circumference of the array

of illuminants as required by independent claims 1, 29, 57, 63-65, and 72-77 of the present invention.

Based on the arguments presented above, it is respectfully submitted that independent claims 1, 29, 57, 63-65, and 72-77 of the present invention are patentable over the cited prior art. Similarly, claims 2-5, 30-33, and 60 are dependent upon claims 1, 29, and 57, respectively, are believed to be allowable over the cited prior art for the same reasons provided above.

Withdraw of all claim rejections and allowance of claims 1-5, 29-33, 57, 60, 63-65 and 72-79 is respectfully requested.


In view of the foregoing remarks, Applicants respectfully submit that the present application is in condition for allowance and a notice to that effect is respectfully requested.

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Application No.: 10/689,260

If the Examiner believes that any formal matters for this application need to be addressed, the Examiner is respectfully invited to contact the undersigned, by telephone, at the Examiner's convenience.

Respectfully submitted,

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